

Fig. 1A

Peniophora numbers	1	37
Alignment numbers		50
P_involtus_A1	.....ML FGFVALACLL	SLSEVLATSV P.....KNT APTFPIPESE
P_involtus_A2	.....MH LGFVTLACLI	HLSEVFaaSV P.....RNI APKFSIPESE
T_pubescens	.....MAFSILASLL	FVCYAYARAV PRAHIPLRDT SACLDVTRDV
A_pediades	.....MSLFIGGCLL	VFLQASAYGG VVQATFVQPF ....FPPQI
P_lycii	.....MV SSAFAPSILL	SLMSSLALST QFSF....V AAQLPIPAQN
A_fumigatus	.....MVTL TFLLSAAYLL	.SGRVSAAPS SAGSKSCDTV DLGYQCSPAT
consphya	.....MGVF VVLLSIATLF	GSTSGTALGP RGNSHSCDTV DGGYQCFPEI
A_nidulans	.....MAFF TVALSLYYLL	..SRVSAQAP VVQNHSCNTA DGGYQCFPNV
A_ficuum_NRRL3135	.....MGVS AVLLPLYLLS	GVTSGLAVPA SRNQSSCDTV DQGYQCFSET
A_terreus	.....MGFL AIVLSVALLF	RSTSGTPLGP RGKHSDCNSV DHGYQCFPEL
T_thermo	.....MSLL LLVLSGGLVA	LYVS...RNP HVDSHSCNTV EGGYQCRPEI
T_lanuginosa	MAGIGLGSFL VLLLQFSALL	TASPAIPPFW RKKHPNVD.. ....I
M_thermophila	.....MTGL GVMVVMVGFL	AIASL..... QSESRPCDTP DLGFQCGTAI
	38	83
	51	100
P_involtus_A1	QRNWSPYSPY FPLAEYKA..	..PPAGCQIN QVNIIQRHGA RFPTSGATTR
P_involtus_A2	QRNWSPYSPY FPLAEYKA..	..PPAGCEIN QVNIIQRHGA RFPTSGAATR
T_pubescens	QQSWSMYSPY FPAATYVA..	..PPASCQIN QVHIIQRHGA RFPTSGAAKR
A_pediades	QDSWAAYTPY YPVQAYTP..	..PPKDCKIT QVNIIQRHGA RFPTSGAGTR
P_lycii	TSNWGPYDPF FPVEPYAA..	..PPEGCTVT QVNLIQRHGA RWPTSGARSR
A_fumigatus	SHLGWQYSPF FSLEDELSVS	SKLPKDCRIT LVQVLSRHGA RYPTSSKSKK
consphya	SHLGWQYSPY FSLEDESAIS	PDVPPDCRVT FVQVLSRHGA RYPTSSKSKA
A_nidulans	SHVWGQYSPY FSIEQESAIS	EDVPHGCEVT FVQVLSRHGA RYPTESKSKA
A_ficuum_NRRL3135	SHLGWQYAPF FSLANESVIS	PEVPAGCRVT FAQVLSRHGA RYPTDSKGKK
A_terreus	SHKGWGLYAPY FSLQDESPPF	LDVPEDCHIT FVQVLRHGA RSPTHSKTKA
T_thermo	SHSWGQYSPF FSLADQSEIS	PDVHQNCKIT FVQLLSRHGA RYPTSSKTEL
T_lanuginosa	ARHWGQYSPF FSLAEVSEIS	PAVPKGCRVE FVQVLSRHGA RYPTAHKSEV
M_thermophila	SHFWGQYSPY FSVP..SEL	ASIPDDCEVT FAQVLSRHGA RAPTLKRAAS
	84	133
	101	150
P_involtus_A1	IKAGLTKLQG VQNFTDAKFN	FIKSFKYDLG NSDLVPGAA QSFDAGQEAF
P_involtus_A2	IKAGLSKLQS VQNFTDPKFD	FIKSFTYDLG TSDLVPGAA QSFDAGLEV
T_pubescens	IQTAVAKLKA ASNYTDPLLA	FVTNYTYSLG QDSLVELGAT QSSEAGQEAF
A_pediades	IQAQVKKLQS AKTYTDPRLD	FLTNYTYTLG HDDLVPFGAL QSSQAGEETF
P_lycii	QVAAVAKIQM ARPFTDPKYE	FLNDFTVYKFG VADLLPFGAN QSHQTGTDMY
A_fumigatus	YKKLVTAIQA NATDFKGKFA	FLKTYNYTLG ADDLTPFGEQ QLVNSGIKFY
consphya	YSALIEAIQK NATAFKGKYA	FLKTYNYTLG ADDLTPFGEN QMVNSGIKFY
A_nidulans	YSGLIEAIQK NATSFWGQYA	FLESYNYTLG ADDLTIFGEN QMVDSGAKFY
A_ficuum_NRRL3135	YSALIEEIQQ NATTFDGKYA	FLKTYNYSLG ADDLTPFGEQ ELVNSGIKFY
A_terreus	YAATIAAIQK SATAFPKGYA	FLQSYNYSLD SEELTPFGRN QLRDLGAQFY
T_thermo	YSQLISRIQK TATAYKGYYA	FLKDYRYQLG ANDLTPFGEN QMIQLGIKFY
T_lanuginosa	YAELLQRIQD TATEFKGDFA	FLRDYAYHLG ADNLTRFGEQ QMMESGRQFY
M_thermophila	YVDLIDRIHH GAISYGPGBYE	FLRTYDYTLG ADELTRTGQQ QMVNSGIKFY

Fig. 1B

	134	176
	151	200
P_involtus_A1	ARYSKLVSKN NLPFIRADGS DRVVDSATNW TAGFASA... . . . SHNTVQ	
P_involtus_A2	ARYSKLVSSD NLPFIRSDGS DRVVDTATNW TAGFASA... . . . SRNAIQ	
T_pubescens	TRYSSLVSAD ELPFVRASGS DRVVATANNW TAGFALA... . . . SSNSIT	
A_pediades	QRYSFLVSKE NLPFVRASSS NRVVDSATNW TEGFSAA... . . . SHHVLN	
P_lycii	TRYSTLFEGG DVPFVRAAGD QRVVDSSTNW TAGFGDA... . . . SGETVL	
A_fumigatus	QRYKAL.ARS VVPFIRASGS DRVIASGEKF IEGFQQAKLA DPGA.TNRAA	
consphyA	RRYKAL.ARK IVPFIRASGS DRVIASAEKF IEGFQSAKLA DPGSQPHQAS	
A_nidulans	RRYKNL.ARK NTPFIRASGS DRVVASAECF INGFRKAQLH DHGS..KRAT	
A_ficuum_NRRL3135	QRYESL.TRN IVPFIRSSGS SRVIASGKKF IEGFQSTKLK DPRAQPGQSS	
A_terreus	ERYNAL.TRH INPFVRATDA SRVHESAECF VEGFQTARQD DHHANPHQPS	
T_thermo	NHYKSL.ARN AVPFVRCSSG DRVVIASGRFL IEGFQSAKVL DPMSDKHDAP	
T_lanuginosa	HYREQ.ARE IVPFVRAAGS ARVIASAEFF NRGFQDAKDR DPRSNKDQAE	
M_thermophila	RRYRAL.ARK SIPFVRTAGQ DRVVHSAENF TQGFHSALLA DRGSTVRPTL	
	177	217
	201	250
P_involtus_A1	PKLNLLIPQ G..NDTLEDN MCPAAGD... . . . SDPOVNA WLAVAFPSIT	
P_involtus_A2	PKLDLILPQ G..NDTLEDN MCPAAGE... . . . SDPVQDA WLASFAPSVT	
T_pubescens	PVLSVIISEA G..NDTLDDN MCPAAGD... . . . SDPVVNQ WLAQFAPPMT	
A_pediades	PILFVILSES L..NDTLDDA MCPNAGS... . . . SDPQTGI WTSIYGTPIA	
P_lycii	PTLQVVLQEE G..NCTLCCN MCPNEVD... . . . GD.ESTT WLGVFAPNIT	
A_fumigatus	PAISVIIIPES ETFNNNTLDHG VCTKFEA... SQLGDEVAAN FTALFAPDIR	
consphyA	PVIDVIIPEG SGYNNTLDHG TCTAFED... SELGDDVEAN FTALFAPPAIR	
A_nidulans	PVVNVIIPEI DGFNNNTLDHS TCVSFEN... DERADEIEAN FTAIMGPPIR	
A_ficuum_NRRL3135	PKIDVVISEA SSSNNNTLDPG TCTVFED... SELADTVEAN FTATFVPSIR	
A_terreus	PRDVVAIPEG SAYNNNTLEHS LCTAFES... STVGDDAVAN FTAVFAPAI	
T_thermo	PTINVIIIEG PSYNNTLDTG SCPVFED... SSGGHDAQEK FAKQFAPAIL	
T_lanuginosa	PVINVIISEE TGSNNNTLDGL TCPAAEE... AP.DPTQPAE FLQVFGPRVL	
M_thermophila	PYDMVVIIPET AGANNTLHND LCTAEEGPY STIGDDAQDT YLSTFAGPIT	
	218	252
	251	300
P_involtus_A1	ARLNAAAAPSV NLTDTDASFNL VSLCAFLTVS KEKK..... . . . S	
P_involtus_A2	AQLNAAAAPGA NLTDADAFNL VSLCPFMTVS KEQK..... . . . S	
T_pubescens	ARLNAGAPGA NLTDTDTYNL LTLCPFETVA TERR..... . . . S	
A_pediades	NRLNQQAPGA NITAADVSNL IPLCAFETIV KETP..... . . . S	
P_lycii	ARLNAAAAPSA NLSDSDALTL MDMCPFDTLS SGNA..... . . . S	
A_fumigatus	ARAEKHLPGV TLTDEDVVSL MDMCSFDTVA RTSD..ASQ. . . . LS	
consphyA	ARLEADLPGV TLTDEDVVYL MDMCPFETVA RTSD..ATE. . . . LS	
A_nidulans	KRLENLPGI KLTNENVIYL MDMCSFDTMA RTAH..GTE. . . . LS	
A_ficuum_NRRL3135	QRLENLPSGV TLTDTEVTYL MDMCSFDTIS TSTV..DTK. . . . LS	
A_terreus	QRLEADLPGV QLSTDDVVNL MAMCPFETVS LTDD..AHT. . . . LS	
T_thermo	EKIKDHLPGV DLAVSDVPYL MDLCPFETLA RNHT..DT.. . . . LS	
T_lanuginosa	KKITKHMPGV NLTLEDVPLF MDLCPFDTVG SDPVLFPRQ. . . . LS	
M_thermophila	ARVNANLPGA NLTDADTVAL MDLCPFETVA SSSSDPATAD AGGGNGRPLS	

Fig. 1C

	253	300
	301	350
<i>P_involtus_A1</i>	DFCTLFEGIP GSFEAFAYGG DLDKFYGTGY GQELGPVQGV GYVNELIARL	
<i>P_involtus_A2</i>	DFCTLFEGIP GSFEAFAYAG DLDKFYGTGY GQALGPVQGV GYINELLARL	
<i>T_pubescens</i>	EFCDIYEELQ AE.DAFAYNA DLDKFYGTGY GQPLGPVQGV GYINELIARL	
<i>A_pediades</i>	PFCNLFT..P EEFAQFEYFG DLDKFYGTGY GQPLGPVQGV GYINELLARL	
<i>P_lycii</i>	PFCDLFT..A EEVSYEYYY DLDKYYGTGP GNALGPVQGV GYVNELLARL	
<i>A_fumigatus</i>	PFCQLFT..H NEWKKYNYLQ SLGKYYGYGA GNPLGPAQGI GFTNELIARL	
<i>consphyA</i>	PFCALFT..H DEWRQYDYLQ SLGKYYGYGA GNPLGPAQGV GFANELIARL	
<i>A_nidulans</i>	PFCAIFT..E KEWLQYDYLQ SLSKYYGYGA GSPLGPAQGI GFTNELIARL	
<i>A_ficuum_NRRL3135</i>	PFCDLFT..H DEWINYDYLQ SLKYYGHGA GNPLGPTQGV GYANELIARL	
<i>A_terreus</i>	PFCDLFT..A TEWTQYNYLL SLDKYYGYGG GNPLGPVQGV GWANELMARL	
<i>T_thermo</i>	PFCALST..Q EEWQAYDYYQ SLGKYYGNNG GNPLGPAQGV GFVNELIARM	
<i>T_lanuginosa</i>	PFCHLFT..A DDWMAYDYYY TLDKYYSHGG GSAFGPSRGV GFVNELIARM	
<i>M_thermophila</i>	PFCRFLFS..E SEWRAYDYLQ SVGKWyGYGP GNPLGPTQGV GFVNELLARL	
	301	349
	351	400
<i>P_involtus_A1</i>	TNS.AVRDNT QTNRTLDASP VTFPLNKTFY ADFSHDNLMV AVFSAMGLFR	
<i>P_involtus_A2</i>	TNS.AVNDNT QTNRTLDAAP DTFPLNKTMY ADFSHDNLMV AVFSAMGLFR	
<i>T_pubescens</i>	TAQ.NVSDHT QTNSTLDSSP ETFPLNRTLY ADFSHDNQMV AIFSAMGLFN	
<i>A_pediades</i>	TEM.PVRDNT QTNRTLDSSP LTFPLDRSIY ADLSHDNQMI AIFSAMGLFN	
<i>P_lycii</i>	TGQ.AVRDET QTNRTLDSDP ATFPLNRTFY ADFSHDNTMV PIFAALGLFN	
<i>A_fumigatus</i>	TRS.PVQDHT STNSTLVSNP ATFPLNATMY VDFSHDNSMV SIFFALGLYN	
<i>consphyA</i>	TRS.PVQDHT STNHTLDSNP ATFPLNATLY ADFSHDNSMI SIFFALGLYN	
<i>A_nidulans</i>	TQS.PVQDNT STNHTLDSNP ATFPLDRKLY ADFSHDNSMI SIFFAMGLYN	
<i>A_ficuum_NRRL3135</i>	THS.PVHDDT SSNHTLDSSP ATFPLKSTLY ADFSHDNGII SILFALGLYN	
<i>A_terreus</i>	TRA.PVHDHT CVNNTLDASP ATFPLNATLY ADFSHDSNLV SIFWALGLYN	
<i>T_thermo</i>	THS.PVQDYT TVNHTLDSNP ATFPLNATLY ADFSHDNTMT SIFAALGLYN	
<i>T_lanuginosa</i>	TGNLPVKDHT TVNHTLDDNP ETFPLDAVLY ADFSHDNTMT GIFSAMGLYN	
<i>M_thermophila</i>	A.GPVVRDGT STNRTLDGDP RTFPLGRPLY ADFSHDNDMM GVLGALGAYD	
	350	383
	401	450
<i>P_involtus_A1</i>	QPAPLSTSVP NPWR.....T WRTSSLVPFS GRMVVERLSC	
<i>P_involtus_A2</i>	QSAPLSTSTP DPNR.....T WLTSVVPFS ARMAVERLSC	
<i>T_pubescens</i>	QSAPLDPTTP DPAR.....T FLVKKIVPFS ARMVVERLDC	
<i>A_pediades</i>	QSSPLDPSFP NPKR.....T WVTSRLTPFS ARMVTERLLC QRDGTSGGP	
<i>P_lycii</i>	ATA.LDPLKP DENR.....L WVDSKLVPFS GHMTVEKLAC	
<i>A_fumigatus</i>	GTEPLSRTSV ESAKE..LDG YSASWVVPFG ARAYFETMQC	
<i>consphyA</i>	GTAPLSTTSV ESIEE..TDG YSASWTVPG ARAYVEMMQC	
<i>A_nidulans</i>	GTQPLSMDSV ESIQE..MDG YAASWTVPG ARAYFELMQC	
<i>A_ficuum_NRRL3135</i>	GTKPLSTTTV ENITQ..TDG FSSAWTVFA SRLYVEMMQC	
<i>A_terreus</i>	GTAPLSQTSV EVSQ..TDG YAAAATVFA ARAYVEMMQC	
<i>T_thermo</i>	GTAKLSTTEI KSIEE..TDG YSAAWTVPG GRAYIEMMQC	
<i>T_lanuginosa</i>	GTKPLSTSKI QPPTGAAADG YAASWTVFA ARAYVELLRC ETETSSEEEE	
<i>M_thermophila</i>	GVPPLDKTAR RDPEE..LGG YAASWAVPFA ARIYVEKMRC SGGGGGGGGG	

Fig. 1D

	384		425
	451		500
<i>P_involtus_A1</i>	.....FGT TKVRVLVQDQ	VQPLEFCGGD RNGLCTLAKF	VESQTFARSD
<i>P_involtus_A2</i>	.....AGT TKVRVLVQDQ	VQPLEFCGGD QDGLCALDKF	VESQAYARSG
<i>T_pubescens</i>	.....GGA QSVRLLVNDA	VQPLAFCGAD TSGVCTLDAF	VESQAYARND
<i>A_pediades</i>	SRIMRNGNVQ TFVRILVNDA	LQPLKFCGGD MDSLCTLEAF	VESQKYARED
<i>P_lycii</i>	.....SGK EAVRVLVNDA	VQPLEFCGG. VDGVCLESAF	VESQTYAREN
<i>A_fumigatus</i>	K..S...EKE PLVRALINDR	VVPLHGCDVD KLGRCKLNDF	VKGLSWARSG
<i>consphyA</i>	Q..A...EKE PLVRVLVNDR	VVPLHGCADV KLGRCKRDDF	VEGLSFARSG
<i>A_nidulans</i>	E.....KKE PLVRVLVNDR	VVPLHGCAVD KFGRCTLDDW	VEGLNFARSG
<i>A_ficuum_NRRL3135</i>	Q..A...EQA PLVRVLVNDR	VVPLHGCPVD ALGRCTRDSF	VRGLSFARSG
<i>A_terreus</i>	R..A...EKE PLVRVLVNDR	VMPLHGCPTD KLGRCKRDAF	VAGLSFAQAG
<i>T_thermo</i>	D..D...SDE PVVRVLVNDR	VVPLHGCEVD SLGRCKRDDF	VRGLSFARQG
<i>T_lanuginosa</i>	E..G...EDE PFVRVLVNDR	VVPLHGCRVD RWGRCRRDEW	IKGLTFARQG
<i>M_thermophila</i>	E..GRQEKEDE EMVRVLVNDR	VMTLKCGCAG ERGMCTLERF	IESMAFARGN
	426	439	
	501	514	
<i>P_involtus_A1</i>	GAGDFEKCF A.		
<i>P_involtus_A2</i>	GAGDFEKCLA TTV.		
<i>T_pubescens</i>	GEGDFEKCF A	T...	
<i>A_pediades</i>	GQGDFEKCFD	....
<i>P_lycii</i>	GQGDFAKCGF	VPSE	
<i>A_fum</i>	..GNWGECS	....
<i>consphyA</i>	..GNWAECFA	*...	
<i>A_nidulans</i>	..GNWKTCFT	L...	
<i>A_ficuum_NRRL3135</i>	..GDWAECFA	....
<i>A_terreus</i>	..GNWADCF.	....
<i>T_thermo</i>	..GNWEGCYA	ASE.	
<i>T_lanuginosa</i>	..GHWDRCF.	....
<i>M_thermophila</i>	..GKWDLCF	....

Fig. 2

<u>AAGCTTGGCAAAC</u>	<u>T</u> CATCATGCTCATCTTGATGATTCCACTGTTCA	GCTACCTGGCTGCTGCTCT <u>GTGGTT</u> CATC	80
HindIII	M L I L M I P L F S Y L A A A S L		
CTTGGCCCTGTCTCGATGTTAAAATACTAAACATATTCACC <u>A</u> CGTGTACTCTCCCTCAGCCAGTGTCTGTGACA	R V L S P Q P V S C D	160	
GCCCCGAGCTTGGTTACCAATGCGACCAGCAGAACGACACCTGGGTCAATACTCACCCCTCTGTCCCCTCA	S P E L G Y Q C D Q Q T T H T W G Q Y S P F F S V P S	240	
GAGATCTCCCCTCCGTTCTGATGGCTGCCGCCTCACCTCGCCCAAGTCTCTCCGCCACGGCGCCGCTTCCAAC	E I S P S V P D G C R L T F A Q V L S R H G A R F P T	320	
CCCGGGTAAAGCCGCCATCTCGCTGTCTCACAAATCAAACCTCTGCCACCTGGTACGGTCCGACTTCAGT	P G K A A A I S A V L T K I K T S A T W Y G S D F Q	400	
TCATCAAGAACTACGACTATGTA	CTTGCGTAGACCACCTGACCGCGTCGGGAGCAAGAAATGGTCAACTCCGCATC	480	
F I K N Y D Y V L G V D H L T A F G E Q E M V N S G I			
AAGTTCTACCAGCGTACTCCTCCCTCATCCAGACAGAAGACTCGGATA	CGCTCCCTCGTCCGCCCTCTGGCCAGGA	560	
K F Y Q R Y S S L I Q T E D S D T L P F V R A S G Q E			
ACCGGTCA	TGCCCTCCGCCAGAACCTCACCAACCGGTTCTACTCGGCCCTCAGCCGACAAGAACCCCTCCCTCCCT	640	
R V I A S A E N F T T G F Y S A L S A D K N P P S S			
TACCAAGACCAGAAATGGTCATCATTCTGAGGGAGCCAACAGCAACACCATG	CACCACGGCTCTGCCGCTCTTT	720	
L P R P E M V I I S E E P T A N N T M H H G L C R S F			
GAAGATTCCACCACCGCGACCAAGCCAAGCGGAATT	CATGCCGCCACCTCCCACCCATACCGCCGCTCTCAACGC	800	
E D S T T G D Q A Q A E F I A A T F P P I T A R L N A			
CCAAGGTTCAAAGCGTACCCCTCTCCAACACCGACGTCTTACTAATGGACCTCTGCCCTTIGACACCGTCC	CT	880	
Q G F K G V T L S N T D V L S L M D L C P F D T V A			
ACCCCCCTTCCTCCCTACCACCAACCTCTCCGTTCTGGAGGCGCAAGTTATCCCCTCTGCTCTCTTCACTGCC	Y P L S S L T T T S S V S G G G K L S P F C S L F T A	960	
AGCGACTGGACAATCTACGATTACCTCCAGTCCCTAGGGAAATACTACGGTTCGGCCCGGTAA	TCC TAGCTGCCAC	1040	
S D W T I Y D Y L Q S L G K Y Y G F G P G N S L A A T			
CCAGGGGTAGGGTACGTCAACGAGTTATGCCCGCTTGATCCGTGCTCCGTGTA	GATCACACGACGACCAACTCTA	1120	
Q G V G Y V N E L I A R L I R A P V V D H T T T N S			
CTCTTGATGGCGACGAAAAACGTTCCGTTGAACAGAACGGGTATGGGATTTCCATGATAATGATATGATGAAT	T L D G D E K T F P L N R T V Y A D F S H D N D M M N	1200	
ATCCTGACTGCTTGGGATATTGAGCATATCAGTCGATGGATAACACCAACTATCCGACCAACTATGGCCAGACAGG	I L T A L R I F E H I S P M D N T T I P T N Y G Q T G	1280	
AGATGACGGGTGAAGGAAACGGATTGTTCAAGGTTAGTGGCGGTGCCCTTGCTGGAGGGTGTACTTGAGAAAA	D D G V K E R D L F K V S W A V P F A G R V Y F E K	1360	
TGGTTGATGCGATGGGATGGCAAGATTGATAGTGATGAGGCTCAGAAAGAGTTGGTGAGGATTTGGTTAATGAT	M V C D A D G D G K I D S D E A Q K E L V R I L V N D	1400	
CGGGTGTGAGATTGAATGGGTGATGCTGATGAACAGGGTAGGTGTGGATTGGAGAAGTTGTGGAGAGTATGGAGTT	R V M R L N G C D A D E Q G R C G L E K F V E S M E F	1520	
TGCGAGGAGAGGGGGAGTGGAGGAGAGGT	TTTGTAGCTCTAGA		
A R R G G E W E E R C F V	XbaI		

Fig. 3

Fig. 4A

Peniophora numbers	1	37
Alignment numbers	1	50
P_involtus_A1	.....ML FGFVALACLL	SLSEVLATSV P.....KNT APTFPIPESE
P_involtus_A2	.....MH LGFVTLACLI	HLSEVFASV P.....RNI APKFSIPESE
T_pubescens	.....MAFSILASLL	FVCYAYARAV PRAHIPLRDT SACLDVTRDV
A_pediades	.....MSLFIGGCLL	VFLQASAYGG VVQATFVQPF .....FPPQI
P_lycii	.....MV SSAFAPSILL	SLMSSLALST QFSF.....V AAQLPIPAQN
A_fumigatus	.....MVTL TFLLSAAYLL	.SGRVSAAAPS SAGSKSCDTV DLGYQCSPAT
consphyA	.....MGVF VVLLSIATLF	GSTSGTALGP RGNSHSCDTV DGGYQCFCPEI
A_nidulans	.....MAFF TVALSLYYLL	..SRVSAQAP VVQNHSCNTA DGGYQCFCPNV
A_ficuum_NRRL3135	.....MGVS AVLLPLYLLS	GVTGLAVPA SRNQSSCDTV DQGYQCFCSET
A_terreus	.....MGFL AIVLSVALLF	RSTSGTPLGP RGKHSDCNSV DHGYQCFCPEL
T_thermo	.....MSLL LLVLSGGLVA	LYVS...RNP HVDSHSCNTV EGGYQCRPEI
T_lanuginosa	MAGIGLGSFL VLLLQFSALL	TASPAIPPFW RKKHPNVD.....I
M_thermophila	.....MTGL GVMVVMVGFL	AIASL..... QSESRPCDTP DLGFQCGTAI
C_foecundissimum	.....ML ILMIPLFSYL	AAASL RVLSPSCDSP ELGYQCDQQT QPV
	38	83
	51	100
P_involtus_A1	QRNWSPYSPY FPLAEYKA...	PPAGCQIN QVNIIQRHGA RFPTSGATTR
P_involtus_A2	QRNWSPYSPY FPLAEYKA...	PPAGCEIN QVNIIQRHGA RFPTSGAATR
T_pubescens	QQSWSMYSPY FPAATYVA...	PPASCQIN QVHIIQRHGA RFPTSGAAKR
A_pediades	QDSWAAYTPY YPVQAYTP...	PPKDCKIT QVNIIQRHGA RFPTSGAGTR
P_lycii	TSNWGPYDPF FPVEPYAA...	PPEGCTVT QVNLIQRHGA RWPTSGARSR
A_fumigatus	SHLGQYSPF FSLEDELSVS	SKLPKDCRIT LVQVLSRHGA RYPTSSKSKK
consphyA	SHLGQYSPY FSLEDESAIS	PDVPDDCRVT FVQVLSRHGA RYPTSSKSKA
A_nidulans	SHVWGQYSPY FSIEQESAIS	EDVPHGCEVT FVQVLSRHGA RYPTESKSKA
A_ficuum_NRRL3135	SHLGQYAPF FSLANESVIS	PEVPAGCRVT FAQVLSRHGA RYPTDSKGKK
A_terreus	SHKGGLYAPY FSLQDESPFP	LDVPEDCHIT FVQVLARHGA RSPTHSKTKA
T_thermo	SHSWGQYSPF FSLADQSEIS	PDVPQNCKIT FVQQLLSRHGA RYPTSSKTEL
T_lanuginosa	ARHWGQYSPF FSLAEVSEIS	PAVPKGCRVE FVQVLSRHGA RYPTAHKSEV
M_thermophila	SHFWGQYSPY FSVP..SELD	ASIPDDCEVT FAQVLSRHGA RAPTLKRAAS
	THTWGQYSPF FSVP SEIS	PSVPDGCRLT FAQVLSRHGA RFPTPGKAAA
	84	133
	101	150
P_involtus_A1	IKAGLTKLQG VQNFTDAKFN	FIKSFKYDLG NSDLVPFGAA QSFDAGQEAF
P_involtus_A2	IKAGLSKLQS VQNFTDPKFD	FIKSFTYDLG TSDLVPFGAA QSFDAGLEV
T_pubescens	IQTAVAKLKA ASNYTDPLLA	FVTNTYTYSLG QDSLVELGAT QSSEAGQEAF
A_pediades	IQAQVKKLQS AKTYTDPRLD	FLTNTYTYTLG HDDLVPFGAL QSSQAGEETF
P_lycii	QVAAVAKIQM ARPFTDPKYE	FLNDFVYKFG VADLLPFGAN QSHQTGTDY
A_fumigatus	YKKLVTAIQA NATDFKGKFA	FLKTYNTYTLG ADDLTPFGEQ QLVNSGIKFY
consphyA	YSALIEAIQK NATAFKGKYA	FLKTYNTYTLG ADDLTPFGEN QMVNSGIKFY
A_nidulans	YSGLIEAIQK NATSFWGQYA	FLESNTYTLG ADDLTIFGEN QMVDGAKFY
A_ficuum_NRRL3135	YSALIEEIQQ NATTFDGKYA	FLKTYNTYSLG ADDLTPFGEQ ELVNSGIKFY
A_terreus	YAATIAAIQK SATAFPKGKYA	FLQSYNTYSLD SEELTPFGRN QLRDLGQFY
T_thermo	YSQLISRIQK TATAYKGYYA	FLKDYRYQLG ANDLTPFGEN QMIQLGIKFY
T_lanuginosa	YAELLQRIQD TATEFKGDFA	FLRDYAYHLG ADNLTRFGE QMMESGRQFY
M_thermophila	YVDLIDRIHH GAISYGPQYE	FLRTYDYTLG ADELTRTGQQ QMVNSGIKFY
	ISAVLTKIKT SATWYGSDFQ	FIKNYDYVLG VDHLTAFGEQ EMVNSGIKFY

Fig. 4B

	134	176
	151	200
P_involtus_A1	ARYSKLVSKN NLPFIRADGS DRVVDSATNW TAGFASA.... . . . SHNTVQ	
P_involtus_A2	ARYSKLVSSD NLPFIRSDGS DRVVDTATNW TAGFASA.... . . . SRNAIQ	
T_pubescens	TRYSSLVSAE ELPFVRASGS DRVVATANNW TAGFALA.... . . . SSNSIT	
A_pediades	QRYSFLVSKE NLPFVRASSS NRVVDSATNW TEGFSAA.... . . . SHHVLN	
P_lycii	TRYSTLFEGG DVPFVRAAGD QRVVDSSTNW TAGFGDA.... . . . SGETVL	
A_fumigatus	QRYKAL.ARS VVPFIRASGS DRVIASGEKF IEGFQQAKLA DPGA.TNRAA	
consphya	RRYKAL.ARK IVPFIRASGS DRVIASAEKF IEGFQSAKLA DPGSQPHQAS	
A_nidulans	RRYKNL.ARK NTPFIRASGS DRVVASAEKF INGFRKAQLH DHGS..KRAT	
A_ficuum_NRRL3135	QRYESL.TRN IVPFIRSSGS SRVIASGKKF IEGFQSTKLK DPRAQPGQSS	
A_terreus	ERYNAL.TRH INPFVRATDA SRVHESAEKF VEGFQTARQD DHIANPHQPS	
T_thermo	NHYKSL.ARN AVPFVRCSSG DRVVIASGRLF IEGFQSAKVL DPHSDKHDAP	
T_lanuginosa	HRYREQ.ARE IVPFVRAAGS ARVIASAEFF NRGFQDAKDR DPRSNKDQAE	
M_thermophila	RRYRAL.ARK SIPFVRTAGQ DRVVHSAENF TQGFHSALLA DRGSTVRPTL QRYSSLIDSD TLPFVRASGQ ERVIASAEF TTGFYSALSA DKNPPSSLPR QTE	
	177	217
	201	250
P_involtus_A1	PKLNLILPQT G..NDTLEDN MCPAAGD.... . . . SDPVQNA WLAVAFPSIT	
P_involtus_A2	PKLDLILPQT G..NDTLEDN MCPAAGE.... . . . SDPVQDA WLASFPSVT	
T_pubescens	PVLSVIISEA G..NDTLDDN MCPAAGD.... . . . SDPVVNQ WLAQFAPPMT	
A_pediades	PILFVILSES L..NDTLDDA MCPNAGS.... . . . SDPQTGI WTSIYGTPIA	
P_lycii	PTLQVVLQEE G..NCTLNN MCPNEVD.... . . . GD.ESTT WLGVFAPNIT	
A_fum	PAISVIIPES ETFNNTLDHG VCTKFEA... SQLGDEVAAN FTALFAPDIR	
consphya	PVIDVIIPER SGYNNTLDHG TCTAFED... SELGDDVEAN FTALFAPPAIR	
A_nidulans	PVNVIIPEI DGFNNTLDHS TCVSFEN... DERADEIEAN FTAIMGPPIR	
A_ficuum_NRRL3135	PKIDVVISEA SSSNNTLDPG TCTVFED... SELADTVEAN FTATFVPSIR	
A_terreus	PRDVVAIPEG SAYNNTLEHS LCTAFES... STVGDDAVAN FTAVFAPAI	
T_thermo	PTINVIIIEG PSYNNTLDTG SCPVFED... SSGGHDAQE FAKQFAPAIL	
T_lanuginosa	PVINVIISEE TGSNNTLDGL TCPAAEE... AP.DPTQPAE FLQVFGPRVL	
M_thermophila	PYDMVVIIPET AGANNTLHND LCTAFEEGPY STIGDDAQDT YLSTFAGPIT P.EMVIISEE PTANNTMHG LCRSFED STTGDQAQAE FIAATFPPI	
	218	252
	251	300
P_involtus_A1	ARLNAAAAPS VLTDTDAFLN VSLCAFLLTVS KEKK..... . . . S	
P_involtus_A2	AQLNAAAAPGA NLTDADAFNL VSLCPFMTVS KEQK..... . . . S	
T_pubescens	ARLNAGAPGA NLTDADTYNL LTLCDFETVA TERR..... . . . S	
A_pediades	NRLNQQAPGA NITAADVSNL IPLCAFETIV KETP..... . . . S	
P_lycii	ARLNAAAAPSA NLSDSDALTL MDMCPFDTLS SGNA..... . . . S	
A_fumigatus	ARAEKHLPGV TLTDEDVVSL MDMCSFDTVA RTSD..ASQ. LS	
consphya	ARLEADLPGV TLTDEDVVYL MDMCPFETVA RTSD..ATE. LS	
A_nidulans	KRLENDLPGI KLTNENVIYL MDMCSFDTMA RTAH..GTE. LS	
A_ficuum_NRRL3135	QRLENDLSGV TLTDTEVTVL MDMCSFDTIS TSTV..DTK. LS	
A_terreus	QRLEADLPGV QLSTDDVVNL MAMCPFETVS LTDD..AHT. LS	
T_thermo	EKIKDHLPVG DLAVSDVPLF MDLCPFETLA RNHT..DT. LS	
T_lanuginosa	KKITKHMPGV NLTLEDVPLF MDLCPFDTVG SDPVLFPRQ. LS	
M_thermophila	ARVNANLPGA NLTDADTVL MDLCPFETVA SSSSDPATAD AGGGNGRPLS ARLNAGFKGV TLSNTDVLSL MDLCPFDTVA YPLSSLTTTS SVSGGGK LS	

Fig. 4C

	253	300
	301	350
<i>P_involtus_A1</i>	DFCTLFEGIP GSFEAFAYGG DLDKFYGTGY GQELGPVQGV GYNELIARL	
<i>P_involtus_A2</i>	DFCTLFEGIP GSFEAFAYAG DLDKFYGTGY GQALGPVQGV GYINELLARL	
<i>T_pubescens</i>	EFCDIYEELQ AE.DAFAYNA DLDKFYGTGY GQPLGPVQGV GYINELIARL	
<i>A_pediades</i>	PFCNLFT..P EEFAQFEYFG DLDKFYGTGY GQPLGPVQGV GYINELLARL	
<i>P_lycii</i>	PFCDLFT..A EYVSYEYYY DLDKYYGTGP GNALGPVQGV GYVNELLARL	
<i>A_fumigatus</i>	PFCQLFT..H NEWKKYNYLQ SLGKYYGYGA GNPLGPAQGI GFTNELIARL	
<i>consphyA</i>	PF CALFT..H DEWRQYDYLQ SLGKYYGYGA GNPLGPAQGV GFANELIARL	
<i>A_nidulans</i>	PFCAIFT..E KEWLQYDYLQ SLSKYYGYGA GSPLGPAQGI GFTNELIARL	
<i>A_ficuum_NRRL3135</i>	PFCDLFT..H DEWINYDYLQ SLKKYYGHGA GNPLGPTQGV GYANELIARL	
<i>A_terreus</i>	PFCDLFT..A TEWTQYNYLL SLDKYYGYGG GNPLGPVQGV GWANELMARL	
<i>T_thermo</i>	PF CALST..Q EEWQAYDYYQ SLGKYYGNNG GNPLGPAQGV GFVNELIARM	
<i>T_lanuginosa</i>	PFCHLFT..A DDWMAYDYY TLDKYYSHGG GSAFGPSRGV GFVNELIARM	
<i>M_thermophila</i>	PF CRLFS..E SEWRAYDYLQ SVGKWYGYGP GNPLGPTQGV GFVNELLARL	
	PFCSLFT A SDWTIYDYLQ SLGKYYGFGP GNSLAATQGV GYVNELIARL	
		349
	351	400
<i>P_involtus_A1</i>	TNS.AVRDNT QTNRTLDASP VTFPLNKTFY ADFSHDNLMV AVFSAMGLFR	
<i>P_involtus_A2</i>	TNS.AVNDNT QTNRTLDAAP DTFPLNKTMY ADFSHDNLMV AVFSAMGLFR	
<i>T_pubescens</i>	TAQ.NVSDHT QTNSTLDSSP ETFPLNRTLY ADFSHDNQMV AIFSAMGLFN	
<i>A_pediades</i>	TEM.PVRDNT QTNRTLDSSP LTFPLDRSIY ADLSHDNQMI AIFSAMGLFN	
<i>P_lycii</i>	TGQ.AVRDET QTNRTLDSDP ATFPLNRTFY ADFSHDNTMV PIFAALGLFN	
<i>A_fumigatus</i>	TRS.PVQDHT STNSTLVSNP ATFPLNATMY VDFSHDNSMV SIFFALGLYN	
<i>consphyA</i>	TRS.PVQDHT STNHTLDSNP ATFPLNATLY ADFSHDNMSI SIFFALGLYN	
<i>A_nidulans</i>	TQS.PVQDNT STNHTLDSNP ATFPLDRKLY ADFSHDNMSI SIFFAMGLYN	
<i>A_ficuum_NRRL3135</i>	THS.PVHDDT SSNHTLDSSP ATFPLKSTLY ADFSHDGII SILFALGLYN	
<i>A_terreus</i>	TRA.PVHDHT CVNNTLDASP ATFPLNATLY ADFSHDSNLV SIFWALGLYN	
<i>T_thermo</i>	THS.PVQDYT TVNHTLDSNP ATFPLNATLY ADFSHDNTMT SIFAALGLYN	
<i>T_lanuginosa</i>	TGNLPVKDHT TVNHTLDDNP ETFPLDAVLY ADFSHDNTMT GIFSAMGLYN	
<i>M_thermophila</i>	A.GVPVRDGT STNRTLDGDP RTFPLGRPLY ADFSHDNMM GVLGALGAYD I RAPVVDHT TTNSTLDGDE KTFPLNRTVY ADFSHDNMM NILTALRIFE	
		383
	350	
	401	450
<i>P_involtus_A1</i>	QPAPLSTSVP NPWR.....T WRTSSLVPFS GRMVVERLSC	
<i>P_involtus_A2</i>	QSAPLSTSTP DPNR.....T WLTSVVPFS ARMAVERLSC	
<i>T_pubescens</i>	QSAPLDPTTP DPAR.....T FLVKKIVPFS ARMVVERLDC	
<i>A_pediades</i>	QSSPLDPSFP NPKR.....T WVTSLRTPFS ARMVTERLLC QRDTGSGGP	
<i>P_lycii</i>	ATA.LDPLKP DENR.....L WVDSLKVVPFS GHMTVEKLAC	
<i>A_fumigatus</i>	GTEPLSRTSV ESAKE..LDG YSASWVVPFG ARAYFETMQC	
<i>consphyA</i>	GTAPLSTTSV ESIEE..TDG YSASWTVVPFG ARAYVEMMQC	
<i>A_nidulans</i>	GTQPLSMDSV ESIQE..MDG YAASWTVVPFG ARAYFELMQC	
<i>A_ficuum_NRRL3135</i>	GTKPLSTTTV ENITQ..TDG FSSAWTVVPFA SRLYVEMMQC	
<i>A_terreus</i>	GTAPLSQTSV EVSQ..TDG YAAAWTVVPFA ARAYVEMMQC	
<i>T_thermo</i>	GTAKLSTTEI KSIEE..TDG YSAAWTVVPFG GRAYIEMMQC	
<i>T_lanuginosa</i>	GTKPLSTSKI QPPTGAAADG YAASWTVVPFA ARAYVELLRC ETETSSEEEE	
<i>M_thermophila</i>	GVPPPLDKTAR RDPEE..LGG YAASWAVPFA ARIYVEKMRC SGGGGGGGGG HISPMQDQTGD DGVKE RDL FKVSWAVPFA GRVYFEKMVC DADGDGKIDS NTTIPTNYG	

Fig. 4D

	384	425
451		500
<i>P_involtus_A1</i>	.....FGT TKVRVLVQDQ VQPLEFCGGD RNGLCTLAKF VESQTFARSD	
<i>P_involtus_A2</i>	.....AGT TKVRVLVQDQ VQPLEFCGGD QDGLCALDKF VESQAYARSG	
<i>T_pubescens</i>	.....GGA QSVRLLVNDA VQPLAFCGAD TSGVCTLDAF VESQAYARND	
<i>A_pediades</i>	SRIMRNGNVQ TFVRILVNDA LQPLKFCGGD MDSLCTLEAF VESQKYARED	
<i>P_lycii</i>	.....SGK EAVRVLVNDA VQPLEFCGG. VDGVCSELAF VESQTYAREN	
<i>A_fumigatus</i>	K..S...EKE PLVRALINDR VVPLHGCVD KLGRCKLNDF VKGLSWARSG	
<i>consphyA</i>	Q..A...EKE PLVRVLVNDR VVPLHGCADV KLGRCKRDDF VEGLSFARSG	
<i>A_nidulans</i>	E.....KKE PLVRVLVNDR VVPLHGCADV KFGRCTLDDW VEGLFN FARSG	
<i>A_ficuum_NRRL3135</i>	Q..A...EQA PLVRVLVNDR VVPLHGPVD ALGRCTRDSF VRGLSFARSG	
<i>A_terreus</i>	R..A...EKE PLVRVLVNDR VMPLHGCPTD KLGRCKRDAF VAGLSFAQAG	
<i>T_thermo</i>	D..D...SDE PVVRVLVNDR VVPLHGCEVD SLGRCKRDDF VRGLSFARQG	
<i>T_lanuginosa</i>	E..G...EDE PFVRVLVNDR VVPLHGRVD RWGRCRDEW IKGLTFARQG	
<i>M_thermophila</i>	E..GRQEKEDE EMVRVLVNDR VMTLKCGCADC ERGMCTLERF IESMAFARGN D EAQK ELVRILVNDR VMRLNGCDAD EQGRCGLEKF VESMEFARRG	
	426	439
	501	514
<i>P_involtus_A1</i>	GAGDFEKCFA TSA.	
<i>P_involtus_A2</i>	GAGDFEKCLA TTV.	
<i>T_pubescens</i>	GEGDFEKCFA T...	
<i>A_pediades</i>	GQGDFEKCFD	
<i>P_lycii</i>	GQGDFAKCGF VPSE	
<i>A_fumigatus</i>	..GNWGECKFS	
<i>consphyA</i>	..GNWAECFA *...	
<i>A_nidulans</i>	..GNWKTCFT L...	
<i>A_ficuum_NRRL3135</i>	..GDWAECFA	
<i>A_terreus</i>	..GNWADCF.	
<i>T_thermo</i>	..GNWEGCYA ASE.	
<i>T_lanuginosa</i>	..GHWDRCF.	
<i>M_thermophila</i>	..GKWDLCFA GEWEECFV	
	R	